DOCUMENT RESUME

ED 280 972 CE 046 765

AUTHOR Marklund, Sixten
TITLE Integration of School and World of Work.
INSTITUTION London Univ. (England). Inst. of Education.
PUB DATE May 86
NOTE 26p.; Paper presented at the Vocationalising Education Conference (London, England, May 7-9, 1986).
PUB TYPE Speeches/Conference Papers (150) -- Information Analyses (070)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Comparative Analysis; *Curriculum Development; Educational Change; *Educational Trends; *Education Work Relationship; *Foreign Countries; *Fused Curriculum; Lifelong Learning; Postsecondary Education; Secondary Education; *Vocational Education

ABSTRACT

The forms of coordination between general and vocational education, including the vocationalization of education, have only become a general issue of school policy during the postwar years. Vocationalization can occur at different levels, and includes making individuals aware of their future roles in the world of work, informing individuals about general characteristics of economic activity and specific characteristics of different occupational fields, training students to perform special tasks, providing specialized and supplementary job training, and updating individuals with information about new and changing occupations. When viewed in the context of educational organization, vocationalization becomes a question of educational differentiation and integration. Efforts to vocationalize education have been undertaken in compulsory, postcompulsory, and lifelong learning situations. The segregation of general and vocational education before 1971 was the result of various social, educational, and financial factors. With the advent of integrated upper-secondary schools, vocational education was given a new content and organization in which students following a vocational course of study were given a broader general education than previously and more scope was given to the so-called general subjects. The future development of the employment sector will do a great deal to determine the future structure and content of education. (MN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

University of London Institute of Education
Department of International and Comparative Education

FD280972

VOCATIONALISING EDUCATION CONFERENCE

7-9 May, 1986

INTEGRATION OF SCHOOL AND WORLD OF WORK

Sixten Marklund

University of Stockholm

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

K.M. Lillis
DICE

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Department of International and Comparative Education
University of London Institute of Education
20 Bedford Way, WC1H 0AL

CE046765

BEST COPY AVAILABLE

INTEGRATION OF SCHOOL AND WORLD OF WORK

Sixten Marklund
University of Stockholm

CONTENTS

		Page
1.	The vocalisation of education concept	1
2.	Levels of vocationalisation in education	1
3.	Vocationalisation as a matter of school curriculum and school structure	3
4.	Vocationalisation of compulsory education	4
5.	Vocationalisation of post-compulsory education	11
	Why integration of general and vocational education?	12
	Three main sectors of organisational structure	14
	The new deal in vocational education. Recent developments.	16
6.	Recurrent education and life-long learning	20

INTEGRATION OF SCHOOL AND WORLD OF WORK

Sixten Marklund
University of Stockholm

1. The vocationalisation of education concept

Vocational education is an ancient phenomenon, but as a form of schooling as a parallel to universal schooling it is relatively new, only a century or so old. And the forms of co-ordination between general and vocational education only became a general issue of school policy during the post-war years. The present-day discussion of vocationalisation education comes under this head.

The concept is unclear, and so too are its practical manifestations in new school structure and curricula. This is partly because vocational training and education have often been considered incompatible. Education was an escape route away from physical work, i.e. the very thing which vocation or trade stood for. The Greek and Latin words for school meant this very thing - freedom from physical labour, the cultivation of intellectual pursuits. The British teacher or doctor calls his occupation a "profession" but hardly a "vocation". In France the word profession generally refers to an occupation or livelihood, regardless of its academic social status; the street-cleaner in the Rue des Ecoles has a "profession" just as much as the research scientist in the Sorbonne University nearby. In Germany, "Beruf" denotes both vocation and profession, and the same is true of "yrke" in Scandinavia. To obviate the discussion otherwise prompted by the usual distinction between vocation and profession in English usage, I propose using vocationalising of education to denote all the measures within school and also measures involving co-operation between schools and the world of work, aimed at preparing the individual for a future occupation and livelihood, whatever the social status of the job concerned.

2. Levels of vocationalisation in education

Vocationalisation can also be classified by other criteria instead of social status. One such criterion may refer to differences concerning

the goal of this vocationalisation. Another concerns the means and methods employed in its realisation. When discussing questions of objectives nowadays we can hardly avoid such questions as the democratisation of education, equality of opportunities, and comprehensivisation of education. Similarly, as regards means and methods, we immediately come up against questions concerning the differentiation of pupils and curricula in different schools, different tracks, streams, settings etc. A classification of vocationalisation at different levels can refer both to its means and to its ends, as follows:

(1) During his education, the individual should be made aware of his future role as a member of the world of work.

(2) In addition, and preferably as part of his compulsory schooling, the individual should be informed about the world of work, about general characteristics of economic activity and specific characteristics of different occupational fields.

(3) In addition, the individual should be trained to perform special tasks, i.e. tasks belonging to a field of occupations or a particular occupation.

(4) The next level of vocationalisation takes the form of specialised and supplementary job training, now usually as part of the job itself.

(5) A further level involves updating with reference to new and changing occupations, as well as further training for positions higher up in the same occupation.

All these levels of vocationalisation imply some form of integration of school and world of work. Moreover, at the highest levels school and work can be integrated to form a single entity. The above mentioned classical distinction between "work" and the "freedom from work" associated with school then fades out of existence.

One practical problem concerns the school levels or educational levels with which these different levels of vocationalisation are to be integrated. Traditionally speaking, schooling has been divided into primary, secondary and tertiary. As a result of the democratisation and "comprehensivisation" of schooling, these organisational levels have tended more and more to include not only academic (traditionally professional) but also vocational education. This tripartite division is becoming more and more of an anachronism and is being superseded by a division into compulsory and post-compulsory education, with the latter tending to imply an integration of school and world of work within an overriding system of recurrent education or what has been termed, with slightly different emphasis, life-long education.

3. Vocationalisation as a matter of school curriculum and school structure

The school curriculum has always been regarded as the territory of the professional educationalist. As a rule, teachers and head teachers have taken the role and tasks of their own school for granted, as well as the selection of pupils and the qualitative criteria of acceptable results. Teachers and head teachers have tended less often to view the role of their own school in a wider social and educational context. They have regarded it as something defined a priori by nature and culture or else as a problem for politicians and rulers. Questions of this latter kind, which have become more and more pressing in our own time, include this very question of how one can and should try to co-ordinate school and the world of work. The transition from school to employment concerns everybody. It can assume various forms, with various apportionments of responsibility and with various degrees of vocational specialisation. The essential requirement for each individual proceeding from school to employment is that these two things should be co-ordinated, that there should be no friction between them and that they should not be mutually contradictory.

"Vocationalisation" as a curricula and organisational question thus becomes, when viewed in the context of educational organisation, very much a question of educational differentiation and integration. These

two terms - differentiation and integration - refer respectively to the study programme and the pupils. Study programmes can be differentiated (for which read: vocationalised) with respect to content and methods. And pupils, similarly, can be divided into groups both within and between different study programmes, e.g. according to individual interest and ability or with reference to labour demand in the community.

If this latter aspect, the needs of the community, is taken to include the official and, mostly, universally accepted goals of recent years concerning equality through education, the vocationalisation of education is also bound to concern the differentiation and integration of teaching. Whichever level between general introduction to the world of work and specific vocational training and development we are referring to, it cannot be viewed as an isolated addition to general education. Instead it is more likely to be an essential dimension of general education.

4. Vocationalisation of compulsory education

During the 1950s and 1960s Sweden introduced a compulsory 9-year comprehensive school, otherwise known as basic school, for all children and youngsters between the ages of 7 and 16. This school is now attended by 98% of all pupils of compulsory school age. The remaining 2% comprise pupils with physical and mental disabilities who attend special institutions and pupils attending a number of independent schools, e.g. schools run by religious denominations and schools employing alternative methods of education. Most of the private schools formerly existing came to be integrated within the basic school system.

Until 1962, the new school existed on an experimental basis. Several forms of vocationalisation were tested. Between 1962 and 1969 the new basic school was gradually introduced throughout the country, with essentially uniform time schedules and syllabi. At the same time the pre-existing forms of primary and lower secondary schools at this age level were abolished.

A new subject, civics, was made compulsory for all pupils from grade 4 onwards. This subject always included what was termed theoretical

vocational orientation, referring to the world of work at first locally and later on in larger areas. Field trips had to be organised to a number of workplaces. These visits were to be prepared in class and then reported in writing. Starting in grade 7, where in addition to the compulsory subjects pupils were able to choose elective subjects for a few periods per week, theoretical vocational orientation also included questions concerning education for different occupations. Practical vocational orientation was introduced as a new subject in grade 8. This subject was allotted three weeks, or longer in individual cases. During this time the pupils were to acquire hands-on experience at two or three different workplaces out of school. Placement arrangements were made by special educational and vocational orientation (SYO) teachers, who were usually also in charge of theoretical vocational orientation in school. In addition, most of them were employed part time in local youth employment offices. The goals of these activities were stated as follows in the central curricular instructions:

> "Practical vocational orientation is designed to supplement vocational theoretical orientation and other civics instruction by means of work experience at a number of workplaces, in this way giving the pupil, firstly, an opportunity of acquiring personal experience of a limited number of jobs or vocational fields and, accordingly, a concrete view of the implications and demands of duties and working conditions in these occupations or occupational fields; secondly a practical opportunity of investigating whether he has the aptitudes, interests and other qualities required for the jobs in question; and thirdly a closer knowledge of the world of work, e.g. concerning the division of labour and specialisation, employer-employee relations, relations between superiors and subordinates and between individual employees, educational opportunities, occupational safety and health and occupational hygiene."

In the terminal grade of compulsory school, until 1962, pupils had to choose between different study routes - known as lines - which were organisationally segregated but still kept within the framework of the compulsory school system. These lines were essentially of three kinds, viz academic, general and pre-vocational. Until 1962, pupils taking the

latter two lines had to complete their practical education by working in local industry and enterprise. The results of gearing pre-vocational education to local enterprise were not always encouraging. This was a difficult matter to organise, especially in communities with one-sided economic structures. And 15 was considered too early an age for pupils to be stationed away from school. From 1962 onwards, accordingly, this pre-vocational training was transferred entirely to schools. The number of vocational lines was reduced and the main upshot was technical education divided into the following principal fields.

Line	Dominant subjects
General practical	Engineering trades
	Domestic work
	Office and retail skills
Technical-Practical	Materials, tools and machinery
	Technical drawing and arithmetic
	Engineering trades
Commerce	Practical Swedish
	Commercial arithmetic and accounting
	General product science
	Typing
	Office and retail skills
Household line	Housing and interior design
	Economics and work organisation
	Diet and cooking
	Textiles and sewing
	Child care and family studies

These vocational subjects, which as can be seen were of a fairly general and preparatory nature, were allotted 22 periods per week altogether in each line. In addition, all pupils also had to take Swedish, civics, geography, biology, physical education and either music or art.

Lines were freely chosen. Pupils - and their parents - decided whether they were to take an academic, general or pre-vocational line. From the very outset there was a heavy bias in favour of the academic lines. Between 1955 and 1968, the proportion of pupils opting for pre-vocational tracks fell from 55 to 20% of each year. There were some schools where pre-vocational lines frequently attracted so few pupils that only one or two of the four study programmes mentioned above could actually be organised.

In 1968, at the instance of the National Board of Education, the Riksdag passed legislation thoroughly revising the system of differentiation in compulsory schooling. As a result, basic school acquired a new curriculum which was gradually introduced from 1969 onwards. The lines of the terminal grade were now completely abolished. Grades 7-9 acquired time schedules and syllabi, 85% of which were common to all pupils. These included English as the first foreign language, which was now made compulsory for all pupils in grades 3-9. For the remaining 15% of their time, pupils could choose one of the following elective subjects:

One foreign language (German, French or - for immigrants - home language/mother tongue)
Economics
Art
Technology

Theoretical educational and vocational orientation as part of the teaching of civics continued on much the same lines and with much the same scope as before. Practical vocational orientation was reduced from three to two weeks and transferred from grade 8 (where it had previously been included in preparation for the choice of line in grade 9) to the terminal grade. Educational and vocational orientation (SYO), both theoretical and practical, included all pupils in the terminal grade (age 15-16), regardless of whether they had chosen a foreign language, economics, art or technology. The distribution of pupils between these four options remained virtually constant until 1980. Most of them, about 60%, opted for a second foreign language. Technology was taken by 20-25% (almost

exclusively boys), economics by about 15% (mostly girls) and art by only a small percentage.

The compulsory school curriculum was revised once more in 1980. This involved little change as regards our question of the vocationalisation of education. The division into lines remained abolished as in the 1969 curriculum. Elective subjects in grades 7-9 retained the same proportions as before, i.e. roughly 15% of the time. A change was made here, however, in that apart from a second foreign language, which schools always have to offer, the elective subject can now be taken from any school subject field whatsoever. It is interesting to note that a new subject, technology, was made compulsory, with two periods per week in grades 7-9 for both boys and girls. The curriculum says that this subject is intended to contribute towards the pupils' "everyday knowledge and skills". In addition, the term "practical vocational orientation" (PRYO) used in previous curricula was altered to "practical working life orientation" or "work experience programmes" (PRAO). At the same time its duration was increased from two or three weeks to a total of ten, which can now be spread out through all nine grades of compulsory school with no reference to the individual pupil's educational or vocational choices. These activities, then, have become more of a wide-ranging introduction, at the same time as their element of vocational preparation has grown less specific and more generalised. The curriculum has the following to say on the subject:

> "Through work experience programmes and the educational and vocational orientation provided by schools, pupils are to acquire a knowledge of different fields of activity, working environments, jobs and occupations, as well as the importance of work to human beings and society. They are to gain an insight into employer-employee relations at work, into the different attitudes and interests represented by the parties, a knowledge of laws and collective agreements, of the rights and obligations of employers and employees, of connections between these factors and of the preconditions of enterprise. They are to acquire a knowledge of the tasks of employment offices and the services which they provide for job-seekers and employees. At school, in their studies of various

subjects, pupils are to be given opportunities of analysing their experiences, so as to help them to arrive at mature educational and vocational decisions.

"Work experience, like other school activities, must counteract restrictions of educational and vocational choice imposed by traditional sexual stereotypes or status thinking or by social and cultural background. It must be aimed at promoting equality between the sexes in the family, at work and elsewhere in the community.

"Like other educational and vocational orientation in the broad sense, work experience concerns everybody at school. It must, in various forms, be included in school activities from the first to the final grade and in the transition from school to employment. A knowledge of working life and the labour market can be acquired both as a result of practical activity in school and outside it and through the teaching of the various school subjects. All job experience, including the pupils' own experience from their leisure and holidays, should be utilised in school. Thus attention should also be paid to the working life of the school itself and to the duties and situation of the various personnel categories.

"In grade 9, educational and vocational orientation has to be intensified, partly by bringing the pupils into direct contact with various educational opportunities. In connection with upper secondary school admissions and outgoing educational and vocational orientation, schools must provide the special guidance needed by certain pupils in preparation for educational choice and contacts with the world of work.

"Direct contact with working life has to take the form of field trips and longer periods during which the pupils are actively occupied at workplaces. The local education authority has to decide the total duration of employment contacts (between 6 and 10 weeks) and their distribution between school levels and individual grades. These decisions have to be prepared within the local committee for co-operation between schools and the employment sector.

"Under work experience schemes, pupils at the senior level of compulsory school (ages 14-16) have to acquire at least one week's experience of each of the following three sectors of employment:

* Technology and manufacturing.
* Trade, communications, services, agriculture and forestry.
* Office work and administration, caring and teaching professions.

"Schools must endeavour to ensure that pupils combine their choices in these three sectors in such a way that boys will acquire an insight into occupations where women predominate and girls into occupations where men predominate."

Rounding off our consideration of the ways in which Sweden has tried to achieve vocationalisation within a school system which, on the whole, is one and the same for all pupils, we can draw the following conclusions:

1. Ever since about 1950, vocationalisation in basic schooling up to the age of 16 has had two main components, viz an introduction to educational opportunities, occupations and the world of work, and pre-vocational education.

2. The introduction or orientation in turn has been of two kinds, viz theoretical orientation in the teaching of science and social subjects, and practical orientation at workplaces.

3. Until 1969, pre-vocational education was organised within special vocational lines of the terminal grade (for 15- and 16-year-olds). Otherwise there were academic lines and lines of general studies.

4. The lines pupils followed depended on the educational choices made by themselves and their parents. The proportion opting for vocational lines declined rapidly until 1969, when the system of lines in compulsory schools was abolished entirely.

5. The vocational orientation and work experience aspects of school vocationalisation have been expanded and deepened and have acquired a more generalised content, at the same time as pre-vocational studies focusing on individual occupations and groups of occupations have diminished or disappeared entirely.

6. To begin with, the target group for vocationalisation in schools comprised non-academic students. Over the years, however, it has expanded to include all compulsory school pupils, i.e. even those planning to pursue higher theoretical studies.

7. The general consensus among teachers, parents and pupils, as well as politicians and administrators in education and the employment sector, now seems to be that the best form of vocationalisation in compulsory school is a good general education and, within this framework, good work experience programmes.

5. Vocationalisation of post-compulsory education

The evolution of compulsory schooling as described above entailed the postponement and, subsequently, the complete abolition of the organisational differentiation of curricula and pupils. On completing the now fully integrated course of compulsory schooling, all pupils can go on to upper secondary school, where they are eligible for both academic and vocational study programmes. Due to competition at this level, however, not all pupils gain admission to their study route of first preference.

Experience of the vocationalisation of compulsory schooling during the experimental period of the 1950s and during the general implementation of the compulsory school system in the 1960s "trickled upwards" to a great extent into post-compulsory schooling. Vocational education, which in the course of the reform came to be located exclusively at post-compulsory level, was thoroughly transformed. Whereas previously it had comprised more than 800 different occupations and positions, specified with reference to earlier craft traditions, it was now divided into about a dozen wide-ranging and less specialised occupational groups geared to the demands of industrial society.

Before 1971 Sweden had had a large number of schools for the post-compulsory ages 16-19 years. These schools were grouped into three types:

* Upper secondary schools (the academic "gymnasium" for students aged 16-19).

* Continuation school (two year courses in social, economic and technical studies for students aged 16-18).

* Vocational schools, schools of agriculture, schools of forestry, rural schools of home economics (from age 16 and onwards).

Legislation passed in 1968 by the Riksdag (i.e. the Swedish Parliament) abolished these schools as three distinct types of school with separate organisations and objectives. They were replaced by the single integrated upper secondary school.

This new school became a natural continuation of the compulsory comprehensive school, which the students completed at the age of 16. The integrated upper secondary school offered twenty-five lines of study, to be pursued for either two or three years. In technical studies there was also a four year line. In addition to these lines there were a number of special vocational courses of varying duration.

The range of lines and special courses now varies from district to district. The directives issued for planning work on the upper secondary school system laid down that efforts should be made to include the majority of study alternatives in every upper secondary school area, but it would not be possible to provide the full range everywhere.

Why integration of general and vocational education?

The partition of general and vocational education before 1971 was both a reflection and a cause of certain social attitudes. The distinction was and, if the truth were but known, had always been an artificial one. Many people have credited academic subjects with a superior status to the practical ones. It was hoped that the introduction of a single school

would eliminate or at least reduce the social connections attached to different subjects and make them equally attractive. Only then, it was said, would it be possible for the individual student to chose a line of studies on the basis of his or her wishes, interests and aptitudes.

The different sectors of upper secondary education had been separately housed. The physical segregation of the academic and the practical studies had produced one-sided groups of students bearing little or no resemblance to the social realities of subsequent working life. This physical segregation has since 1971 been gradually eliminated or diminished.

These social reasons for integrating vocational and academic education at upper secondary level coincided with other considerations. The integrated upper secondary school was also aimed at making it easier to deploy resources of staff and equipment more effectively. Co-ordination would facilitate a better range of teaching posts, so that more qualified teachers would be available for more subjects and students could be taught by the teacher best qualified for the work in hand. This meant that there were also educational reasons for integration. And education would make it easier for studies to be conducted on the best premises for each subject.

To the social and educational reasons there were also added financial ones. Integration should give economic advantages, above all at municipal level. Not only would it reduce administrative costs to a certain extent, it would also make for a more effective utilisation of resources such as expensive special facilities and technical equipment.

The change in 1971 also aimed at a substantial widening of the very concept of upper secondary education. This education, the Riksdag said, should no longer be restricted to general studies or academic studies serving to prepare students for further education at universities and colleges. It should also include technical and vocational education. The boundary between theoretical and practical education was no longer accepted. The educational decisions of the individual student, as it was said, should be less binding and final as they used to be earlier.

Three main sectors of organisational structure

Upper secondary studies can from 1971 be grouped into three main sectors: a first one for arts and social studies, a second sector for economic studies and a third one for technical and scientific studies. The twenty-five lines of the upper secondary school are divided as follows between the various sectors:

* Arts and social study routes comprise the following: two-year domestic line, two-year nursing line, two-year social service line, two-year music line, two-year social line, three-year arts line and three-year social science line.

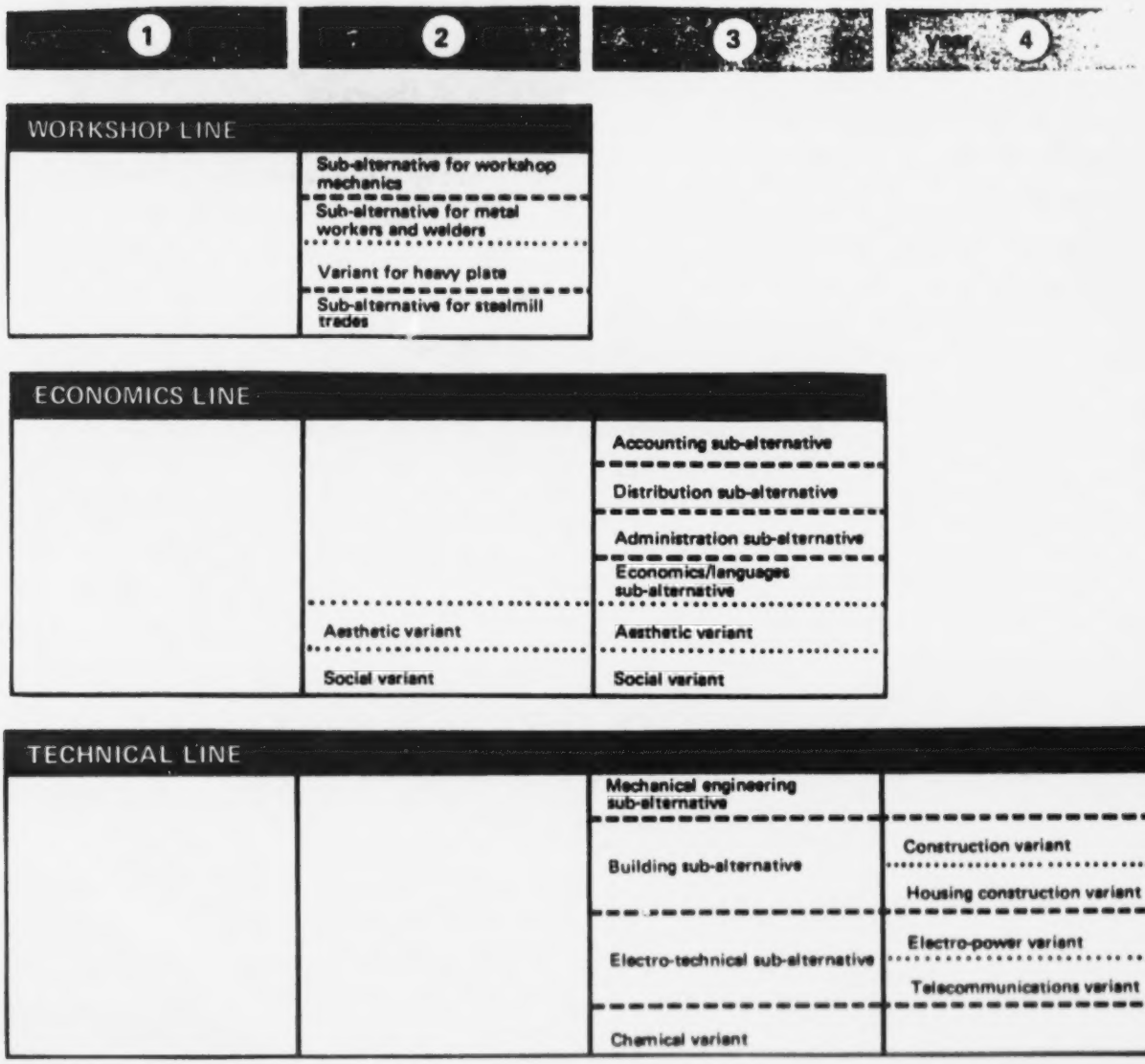
* Economic study routes comprise the following: two-year distribution and clerical line, two-year economics line and three-year economics line.

* Technical and economic study routes comprise the following: two-year lines for clothing manufacturing, food manufacturing, workshop techniques, motor engineering, woodwork, building and construction, electro-telecommunications, process engineering, forestry, agriculture, gardening, a two-year maintenance and repair line, a two-year technical line, a three-year science line and a four-year technology line.

It should be noted that within these three sectors there are both academic and general-vocational lines. Seventeen of the twenty-five lines are mainly vocational or pre-vocational, while the remaining eight have a general or academic outline.

Most lines subdivide into branches. The way this principle works is illustrated in the following picture, showing three different examples:

The structure of the two-year workshop line, the three-year economics line and the four-year technical line.



It has to be admitted that this structure of simplified vocational education in a restricted number of study lines and this grouping of vocational as well as academic studies in upper secondary school were bought at the price of a large number of specialised vocational courses within the framework of upper secondary school. The specialised courses became more than 400. They do not form part of any line. The duration of these courses varies from ten weeks to three years.

Most specialised courses follow on directly from comprehensive school. Others, known as higher specialised courses, must be preceded by at least two years of upper secondary schooling or comparable studies.

The students in integrated upper secondary school attending these special courses and higher special courses have decreased in number since this type of school was introduced in 1971. They now make up about 5% of the student population at this level.

Among specialised courses of this kind can be mentioned

* In the section for arts and social studies: occupational therapists (3 years), physiotherapists (2 years) and playspace staff (1 term).

* In the section for economics and commercial studies: decorators (2 years), pharmacy assistants (2 years) and receptionists (2 years).

* In the section for technical and scientific studies: furriers (3 years), ladies'/gentlemen's hairdressers (3 years) and cartographers (1 year).

The new deal in vocational education. Recent developments

With the introduction of the integrated upper secondary school, vocational education was given a new content and organisation. The salient points of the new organisation for vocational education became as follows:

* All lines replacing vocational schools became of two years' duration. A number of special courses was also provided.

* Students following the vocational lines were given a broader general education than previously. Specialisation proceeded successively.

* More scope was given to the so-called general subjects.

Specialisation was effected gradually by means of sub-alternatives. This meant that more definite decisions by the students about their course of studies could be taken at a later stage. It also meant that they could be given a more all-round education making it easier for them to adjust to changes in the labour market.

The new vocational education was based on the so-called block principle, whereby similar occupations are merged into larger vocational sectors. The basic block, i.e. the initial course of studies, contained items common to the entire sector. Studies were then gradually specialised in keeping with the character of the various occupations.

One important innovation was the great increase in the study of so-called general subjects included in vocational education. Swedish, labour market orientation and physical education were compulsory for all lines. Students also had to choose at least one of several optional extra subjects of a general character. These were English, German, French, civics, religious knowledge, psychology, mathematics, domestic science, music or art. A student could also dispense with one vocational subject in order to study subjects belonging to another line within the upper secondary school. This form of substitution, which might not comprise more than 12 periods per week, was generally confined to the second year.

Labour market orientation was a new subject included in all vocational lines. This subject was designed to provide students with a general background to their subsequent careers, e.g. through information on the labour market and working life. Students were also introduced to social economic affairs, trade unions and other labour market organisations,

industrial safety, industrial democracy, personnel welfare and other matters concerning joint determination and co-operation.

At present the integrated upper secondary school can take all students finishing their compulsory education at 16. And the number of students attending upper secondary school now corresponds to about 90% of the year group.

This means that the frequency of upper secondary studies has increased enormously during recent years. It more than doubled between 1971 and 1980. The vocational lines have become more attractive than before. One reason for this change is that the entrance requirements to universities and other kinds of higher studies were changed in 1977. It is no longer necessary to have a traditional three-year academic upper secondary line to go to university. A two year upper secondary course is sufficient, provided that this course includes Swedish and English. This confers general eligibility for higher studies, which is enough for the majority of university courses. In certain kinds of higher studies, i.e. to become a teacher or a doctor, it is necessary to have also a set of special admission qualifications usually full academic courses from upper secondary school.

A number of evaluation studies of the upper secondary school have been made. These cannot be reviewed here, only the general statement that it mostly works well. The fear, very often expressed when the integrated upper secondary school started, that the quality of vocational education might deteriorate, is hardly heard nowadays. It has been found, however, that the integrated upper secondary school is a fairly expensive kind of school. One reason for this is the investments in school buildings of a specialised kind, investments in machines, learning materials and equipment. Another reason is the cost of teaching staff. The student/teacher ratio is 12 for the Swedish upper secondary school as a whole. As a rule, vocational lines have smaller classes than academic lines.

It is interesting to see how the distribution of pupils between different lines has developed since 1971. The two-year vocational lines have risen steeply in popularity and scope. During the 10-year period ending in

1981, this vocational education increased its share of the school population from 19 to 37%. Specialised short-cycle courses moved in the opposite direction, from 39 to 27%. (Since they are mostly shorter than the vocational lines, these courses only account for about 5% of the upper secondary school population altogether.) The traditionel university and college entrance academic lines did not change appreciably during the same period. The number of applicants for the two-year vocational lines showed the heaviest increase. The vocational lines for food manufacturing, clothing manufacturing, woodwork, electro-telecommunications engineering, caring professions, and agriculture and forestry have attracted more applicants per place than the theoretical university entrance lines. This is a point which is frequently overlooked in the debate on the equalising effects of the new school: two-year vocational education within the integrated upper secondary school has risen in status.

The amalgamation, from 1971 onwards, of vocational education with general academic education at upper secondary level to form a single school was a direct consequence of the underlying reform of basic schooling. Experience of the integrated upper secondary school has on the whole been encouraging, but changes have been found necessary in a number of respects. Widespread experimental schemes of work experience are now being conducted in the general and academic lines, during the two or three years of their duration. Work experience can total up to eight weeks per student, divided into fortnightly periods. Another experimental scheme involves the co-ordination of studies in these lines with corresponding courses of municipal adult education.

It is also very interesting to note the recommendation made by a Government Commission for the prolongation of two-year vocational lines of study to three years. Only a minor portion of the third year would be spent at school, the greater part being devoted to work experience outside.

Another Government Commission has recommended that university entrance qualifications for applicants from non-academic lines be tightened up so

as to stipulate a certain minimum level of achievement in academic subjects as a condition of formal eligibility.

6. Recurrent education and life-long learning

The changes which took place in Swedish education during the 1960s principally entailed a prolongation of continuous youth education, an augmentation of its general components and a postponement of specialisation and vocationalisation. Meantime adult education, in its various forms, developed into a necessary supplement to youth education. Discussions of educational policy during the 1970s were mostly concerned with the achievement, with due regard to the needs of both individual and community, of a good balance between educational inputs at different stages of the life-cycle. A deliberate policy has evolved of alternating between periods of education and periods of employment or other activity. In 1975 the Riksdag declared that educational planning as a whole should be based on the principle of recurrent education, thereby renouncing the idea that education ought preferably to be concentrated within a continuous period during childhood and adolescence, followed by uninterrupted economic activity right up to retirement.

There are several indications of an emergent pattern of recurrent education. Of the 90% of every year nowadays going on to upper secondary school from compulsory school, many students have an intermission of one or more years in between. This now applies to about 15 of the 90%. An equal number suspend their studies for a year or so for practical employment. In other words, they alternate in this way between education and employment of their own volition. There is reason to support this kind of development through various measures of educational and employment policy.

National and municipal adult education has provided additional opportunities of alternating between or otherwise combining education and employment. This adult education now has a larger student population than upper secondary schools, although with a shorter duration of studies per individual. The study circle activities organised by the adult education associations attract almost 2 million people annually, which is a very

large number of an entire national population of just over 8 million. Circle studies, admittedly, are confined to a few dozen hours and are to some extent concerned with arts and hobby subjects, but they still give many people an opportunity of combining gainful employment with education.

Similar tendencies are to be observed in the popular educational activities of folk high schools. The number of full-time students at these schools has not increased during the past 10 years, but the number taking short-cycle courses has risen since 1970 from about 16,000 to almost 200,000 per annum. Similar activities occur in the form of small package courses arranged by companies and organisations at training and conference centres. These activities too have expanded appreciably. Arrangements of these kinds can be described as building bricks in a growing system of recurrent education.

Developments at the universities since 1970 have resulted in about half the students enrolling every year been 25 or older, which means that in one way or another they have alternated between education and gainful employment. The number of part-time students at the universities, i.e. students who as a rule probably combine or alternate between education and employment, has increased from a mere 12% in 1970 to more than 30%. It has also become common for students to express a preference for individual courses and subjects, instead of reading for a full degree. The proportion studying on this basis has risen since 1970 from about 10% to 40% of annual enrolments.

The new university entrance regulations introduced in 1977 make adults with job experience eligible for higher education. Gainful employment has a credential value in competition for popular studies. Generally speaking, this has led to appreciable changes in the age, previous knowledge and experience of students enrolling for higher studies. In time, the pattern of recurrent education which is now evolving may transform not only recruitment for higher studies but also the content of the studies themselves and perhaps too patterns of recruitment in the employment sector.

One of the purposes of recurrent education is to bring about a more vigorous interchange between the employment sector and education. It should be possible for upper secondary schooling and higher education to build increasingly on the students' own practical experience. Theoretical studies can be made to focus more on the analysis of such experience. It is clear that with developments moving in this direction, experience from adult education will have an essential bearing on teaching in both upper secondary school and higher education. The boundaries between adult education and regular post-compulsory education are becoming less and less rigid, at the same time as the need for a wide variety of educational inputs remains and if anything is growing.

Thus the development of the employment sector will do a great deal to determine the future structure and content of education. Technical progress may lead to a polarisation of the labour market, with a widening gulf between skilled and unskilled jobs. The implications this holds for the organisation of work and the vocational preparation provided by schools are a fundamental question. Efforts to improve the occupational environment and to augment co-determination at work will also involve special demands on education.

Schools are being reformed and changed all the time, not least in response to the changes undergone by working life. But changes in schools are still being made in disturbing isolation. Schools are being adjusted as far as possible to a world of work which "is just there".

The same goes for working life and the labour market. Some adjustments, it is true, are being made in relation to schools, but on the whole working life and the labour market are planned as if schools "were just there", standing immobile to one side.

The simple fact - a truism but an increasingly obtrusive one - is that schools and employment cannot be kept in watertight compartments. Any change in one of them is bound to affect the other.

Schools and education are investigated and reformed essentially in a vacuum, and the same goes for work and employment. They are less often

treated conjointly. Schools need to be planned more with scope for work. Similarly, the world of work will have to be organised more consistently and broadly than at present with scope for students from the age of 16 and upwards.

One of the main questions here is whether a new system of recurrent education is to be allowed to develop freely or whether it must be made subject to some form of political influence. Free development governed by the market mechanisms can, if the worst comes to the worst, result in recurrent education, based on alternation between employment and education, becoming a new mechanism of social segregation and rejection, i.e. clean contrary to the egalitarian education and social policies which have characterised developments in Sweden over the past 40 years. The choice of development in this form of vocationalisation of education rests with everybody, viz individual and society, national and local authorities, public authorities and organisations, politicians, administrators and researchers. It is, moreover, to be hoped that analyses and investigations will indicate how persons of different ages can share what appears to be an insufficient pool of employment and how older persons can tutor younger ones.

In this way the vocationalisation of education will acquire slightly different meaning from what is generally termed vocational training. There is a danger involved in training large social groups of young persons at an early stage for limited positions in industry. In modern industrial society, less than 10% of the work force is directly productive. The large categories of skilled workers today are employed in public and private services of a general kind, in hospitals, child care, care of the elderly, teaching, distributive trades, communications, information, administration and suchlike fields. To these are added research, performing and other arts, leisure activities, entertainment and a great many other things which today we regard as both good and necessary. Preparations for employment in all these things also constitute vocationalisation, but they must be given to the persons concerned through both generalised and vocationalised education, and this can best be provided through an integration of school learning and everyday work.